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A REVIEW OF THE «ONESIA» GENERIC GROUP (DIPTERA: CALLIPHORIDAE). PART 1. THE SPECIES OF THE GENERA *POLLENIOPSIS* TOWNSEND, *TAINANINA* VILLENEUVE AND *TRICYCLEOPSIS* VILLENEUVE

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The diagnosis and a key to the genera of «Onesia» generic group are proposed. The annotated lists with faunistic data of the species of genera *Polleniopsis* Townsend, 1917, *Tainanina* Villeneuve, 1927 and *Tricycleopsis* Villeneuve, 1927 are given.

KEY WORDS: Calliphoridae, *Polleniopsis*, *Tainanina*, *Tricycleopsis*, key, distribution.

**Ю. Г. Вервес. Обзор группы родов «Onesia» (Diptera: Calliphoridae).
Часть 1. Виды родов *Polleniopsis* Townsend, *Tainanina* Villeneuve и *Tricycleopsis* Villeneuve // Дальневосточный энтомолог. 2004. N 134. C. 1-12.**

Данются диагноз группы родов «Onesia» и определительная таблица входящих в нее родов. Приведены списки видов родов *Polleniopsis* Townsend, 1917, *Tainanina* Villeneuve, 1927 и *Tricycleopsis* Villeneuve, 1927 с данными по их распространению.

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INTRODUCTION

H. Kurahashi (1972a) separated *Onesia*-group among other genera of the tribe Calliphorini. Lower calypter in species of this group white or pale, not blackish, with hairs on basal half of upper surface only, sometimes with only a few setae (*Bellardia*, *Onesia*, *Polleniopsis*, *Tainanina*). According to Z. Fan et al. (1997) genus *Tricycleopsis* belongs to this group too. The generic limits of species of *Onesia*-group were poorly understood. K. Rognes (1991, 1998) and Z. Fan (Fan et al., 1997) proposed the distinct diagnosis for these genera. According to these works I revised the species included in the *Onesia*-group genera.

One hundred fifty nine species in five genera of *Onesia*-group distributed in Palaearctic, Oriental and Australasian/Oceanian regions. Larvae of several species are known as the parasites or predators of earthworms.

KEY TO GENERA OF *ONESIA*-GROUP

- | | |
|--|-------------------------------|
| 1. 3-4 postsutural intraalar setae | 2 |
| – 1-2 postsutural intraalar setae | 3 |
| 2. 1st flagellomere 4.0-6.0 times as long as pedicel; frons broad in both sexes, 0.20-0.30 times head width; body black with greyish white dusting | <i>Tainanina</i> Vill. |
| – 1st flagellomere 2.5-3.0 times as long as pedicel; male frons very narrow, not more than 0.15 times head width; head and thorax black, abdomen olive green metallic, with shifting pattern | <i>Onesia</i> R.-D. |
| 3. Head and thorax black, abdomen olive green metallic, with shifting pattern; 1st flagellomere 1.5-2.0 times as long as pedicel | <i>Bellardia</i> R.-D. |
| – Body entirely black, grey or testaceous to yellow; 1st flagellomere more than 2.0 times as long as pedicel | 4 |
| 4. Outer posthumeral setae present; body subshining bluish black or entirely or partly testaceous to yellow | <i>Tricycleopsis</i> Towns. |
| – Outer posthumeral setae absent; body dark grey with light dusting | <i>Polleniopsis</i> Townsend. |

Genus *Polleniopsis* Townsend, 1917

Polleniopsis Townsend, 1917: 201. Type species: *Polleniopsis pilosa* Townsend, 1917, by original designation.

Polleniopsis: Villeneuve, 1942: 51; Kurahashi, 1964: 484; 1972a: 709; 1980: 171; Fan & Chen, 1991: 71; Kurahashi, 1992: 581, 585.

Mongoliopsis Lehrer, 1970: 15. Type species: *Polleniopsis mongolica* Séguin, 1928, by original designation. Synonymized by Kurahashi, 1972a: 709.

DIAGNOSIS. Medium-sized or small flies (3.5-12.0 mm) with black, blackish blue, olive green or brown body with light pollination and checkering pattern on abdomen. Frons in males very narrow; first flagellomere more than 2 times as long as pedicel; outmost *ph* absent; *ac* 0-2 + 1, *dc* 2-3 + 3, *ia* 0-1 + 1-2.

SPECIES INCLUDED. Genus includes 35 species; the most of them are Oriental (14 species) and Eastern Palaearctic (13 species), four species known from

Australasian/Oceanian regions; two species (*P. fukiensis*, *P. mongolica*) are common for south-eastern part of Palaearctic and Oriental regions, and two (*P. inconclusa*, *P. toxopei*) – for Oriental and Australasian/Oceanian regions.

List of species

***Polleniopsis allapsa* Villeneuve, 1942**

Polleniopsis allapsa Villeneuve, 1942: 51; Zumpt, 1956: 63; Schumann, 1986: 36; Fan et al., 1997: 356.

DISTRIBUTION. Palaearctic: China: Shanghai, Tibet.

***Polleniopsis annamensis* Kurahashi, 1972**

Polleniopsis annamensis Kurahashi, 1972a: 722; Kurahashi & Chowanadisai, 2001: 190.

DISTRIBUTION. Oriental: China: Hainan; Vietnam.

***Polleniopsis chosenensis* Fan, 1965**

Polleniopsis chosenensis Fan, 1965: 169; James, 1977: 539; Schumann, 1986: 36; Chen et al., 1992: 1215; Fan, 1992: 507; Fan et al. 1997: 356, 360, 643.

DISTRIBUTION. Palaearctic: China: Liaoning; Korea; Japan.

***Polleniopsis choui* Fan et Chen, 1991**

Polleniopsis choui Fan & Chen, 1991: 72; Fan, 1992: 511; Fan et al. 1997: 356, 368, 643.

DISTRIBUTION. Oriental: China: Yunnan.

***Polleniopsis cuonaensis* Chen et Fan, 1991**

Polleniopsis cuonaensis Fan & Chen, 1991: 71; Chen et al., 1992: 1216; Fan, 1992: 507; Fan et al., 1997: 362-363, 643.

DISTRIBUTION. Palaearctic: China: Tibet.

***Polleniopsis dalatensis* Kurahashi, 1972**

Polleniopsis dalatensis Kurahashi, 1972a: 720; Chen et al., 1992: 1216; Fan, 1992: 509; Xue & Chao, 1996: 1485; Fan et al., 1997: 356, 365, 643; Kurahashi & Chowanadisai, 2001: 190.

DISTRIBUTION. Oriental: China: Hainan; Vietnam.

***Polleniopsis dandoensis* Kurahashi, 1964**

Polleniopsis dandoensis Kurahashi, 1964: 488; Schumann, 1986: 36.

DISTRIBUTION. Palaearctic: Japan: Honshu.

***Polleniopsis degenensis* Chen et Fan, 1992**

Polleniopsis degenensis Chen et al., 1992: 1202, 1217; Fan et al., 1997: 357, 371, 644.

DISTRIBUTION. Oriental: China: Yunnan.

***Polleniopsis elongata* Kurahashi, 1972**

Polleniopsis elongata Kurahashi, 1972a: 712; Kurahashi et al., 1997: 18.

DISTRIBUTION. Oriental: Malaysia: Sabah.

***Polleniopsis fukiensis* Kurahashi, 1972**

Polleniopsis fukiensis Kurahashi, 1972a: 722; Chen et al., 1992: 1216; Fan, 1992: 509; Fan et al., 1997: 356, 366, 643.

DISTRIBUTION. Palaearctic: China: Shanghai; Oriental: China: Fujian, Zhejiang.

***Polleniopsis fulviventris* Kurahashi, 1972**

Polleniopsis fulviventris Kurahashi, 1972a: 716; 1986: 15; 1987: 39; 1989a: 707.

DISTRIBUTION. Australasian/Oceanian: Indonesia: Irian Jaya; Papua New Guinea: New Guinea.

***Polleniopsis gressitti* Kurahashi, 1972**

Polleniopsis gressitti Kurahashi, 1972a: 717; Kurahashi & Chowanadisai, 2001: 190.

DISTRIBUTION. Oriental: Vietnam.

***Polleniopsis himalayana* Kurahashi, 1992**

Polleniopsis himalayana Kurahashi, 1992: 585; Kurahashi & Thapa, 1994: 199.

DISTRIBUTION. Oriental: Nepal.

***Polleniopsis hokurikuensis* Kurahashi, 1964**

Polleniopsis hokurikuensis Kurahashi, 1964: 487; Schumann, 1986: 36.

DISTRIBUTION. Palaearctic: Japan: Honshu.

***Polleniopsis horii* Kurahashi, 1964**

Polleniopsis horii Kurahashi, 1964: 489; Schumann, 1986: 36.

DISTRIBUTION. Palaearctic: Japan: Honshu.

***Polleniopsis inconclusa* (Walker, 1860)**

Musca inconclusa Walker, 1860: 160.

Pollenia inconclusa: Senior-White et al., 1940: 124.

Polleniopsis inconclusa: Kurahashi, 1972a: 714; 1989a: 707; Kurahashi & Magpayo, 2000: 11.

DISTRIBUTION. Oriental: Indonesia: Sulawesi; Philippines: Luzon. Australasian/Oceanian: Indonesia: Moluccas.

***Polleniopsis jamesi* Kurahashi, 1972**

Polleniopsis jamesi Kurahashi, 1972a: 714; 1980: 171; 1986: 15; 1987: 39; 1989a: 707.

DISTRIBUTION. Australasian/Oceanian: Papua New Guinea: New Guinea.

***Polleniopsis kashmirensis* Kurahashi et Okadome, 1976**
Polleniopsis kashmirensis Kurahashi & Okadome, 1976: 42.

DISTRIBUTION. Oriental: India: Kashmir.

***Polleniopsis lata* Zhong, Wu et Fan, 1981**

Polleniopsis lata Zhong et al., 1981: 247, 251; Schumann, 1986: 36; Fan, 1992: 511; Fan et al., 1997: 356, 367, 643.

DISTRIBUTION. Palaearctic: China: Tibet.

***Polleniopsis micans* Villeneuve, 1942**

Polleniopsis micans Villeneuve, 1942: 50; Zumpt, 1956: 63; Schumann, 1986: 36; Fan et al., 1997: 356.

DISTRIBUTION. Palaearctic: China: Shanghai, Tibet.

***Polleniopsis milina* Fan et Chen, 1987**

Polleniopsis milina Fan et al., 1987: 302, 306; Fan, 1992: 512; Fan et al., 1997: 357, 370, 644.

DISTRIBUTION. Palaearctic: Tibet.

***Polleniopsis mongolica* Séguy, 1928**

Polleniopsis mongolica Séguy, 1928: 119; Wu, 1940: 375; Zumpt, 1956: 63; Fan, 1965: 169; James, 1977: 539; Schumann, 1986: 36; Chen et al., 1992: 1215; Fan, 1992: 507; Fan, 1997: 356, 357, 643; Verves, 2002: 6.

Pollenia mongolica: Senior White et al., 1940: 120.

DISTRIBUTION. Palaearctic: China: Beijing, Hebei, Henan, Hubei, Jiangsu, Jilin, Liaoning, Neimenggu, Ningxia, Qinghai, Shaanxi, Shandong, Shanghai, Shanxi; Japan; Mongolia; Russia: Kuril Is. (Kunashir), Southern Primorye; Oriental: Laos.

***Polleniopsis nepalica* Kurahashi, 1992**

Polleniopsis nepalica Kurahashi, 1992: 587; Kurahashi & Thapa, 1994: 199.

DISTRIBUTION. Oriental: Nepal.

***Polleniopsis nigripalpis* Verves, 1991**

Polleniopsis nigripalpis Verves, 1991: 127.

DISTRIBUTION. Oriental: Sri Lanka.

***Polleniopsis patiens* (Walker, 1858)**

Musca patiens Walker, 1858: 106.

Polleniopsis patiens: Kurahashi, 1989a: 707.

DISTRIBUTION. Australasian/Oceanian: Indonesia: Moluccas.

***Polleniopsis pilosa* Townsend, 1917**

Polleniopsis pilosa Townsend, 1917: 202; James, 1977: 540; Tumrasvin et al., 1979: 247.

Pollenia pilosa: Senior-White et al., 1940: 121.

DISTRIBUTION. Oriental: India: Bihar, Meghalaya, West Bengal; Thailand.

***Polleniopsis pulchokii* Kurahashi, 1992**

Polleniopsis pulchokii Kurahashi, 1992: 590; Kurahashi & Thapa, 1994: 200.

DISTRIBUTION. Oriental: Nepal.

***Polleniopsis sarcophagoides* (Walker, 1861)**

Musca sarcophagoides Walker, 1861: 244.

Polleniopsis sarcophagoides: Kurahashi, 1989a: 707.

DISTRIBUTION. Australasian/Oceanian: Indonesia: Irian Jaya.

***Polleniopsis shanghaiensis* Fan et Chen, 1997**

Polleniopsis shanghaiensis Fan et al., 1997: 356, 360, 643.

DISTRIBUTION. Palaearctic: China: Shanghai.

***Polleniopsis stenacra* Fan et Chen, 1988**

Polleniopsis stenacra Fan & Chen, 1988: 511; Chen et al., 1992: 1216; Fan, 1992: 512; Fan et al., 1997: 357, 369, 643.

DISTRIBUTION. Palaearctic: China: Tibet.

***Polleniopsis toxopei* (Senior-White, 1926)**

Paratriclea toxopei Senior-White, 1926: 136

Somalia toxopei: Hennig, 1941: 180.

Pollenia toxopei: Senior-White et al., 1940: 122.

Polleniopsis toxopei: James, 1966: 465; 1977: 540; Kurahashi, 1972a: 710; Rueda, 1985: 353; Kurahashi, 1986: 14; 1987: 39; 1989a: 707; Kurahashi et al., 1997: 18; Kurahashi & Magpayo, 2000: 11; Kurahashi, 2003: 127.

Pollenia carinata Malloch, 1927: 53. Synonymized by Senior-White et al., 1940: 122.

Paratriclea aurescens Baranov, 1936: 103. Synonymized by Sabrosky & Crosskey, 1970: 427.

DISTRIBUTION. Oriental: Indonesia: Java, Kalimantan, Sumatra; Malaysia: Sabah, Sarawak, Pahang; Philippines: Balabac, Luzon, Mindanao, Palawan; China: Taiwan. Australasian/Oceanian: Indonesia: Irian Jaya, Moluccas (Buru Is.); Papua New Guinea: Admiralty Is., Bismarck Archipelago, New Guinea; Solomon Isl.

***Polleniopsis varilata* Chen et Fan, 1992**

Polleniopsis varilata Chen et al., 1992: 1216; Fan, 1992: 511; Fan et al., 1997: 356, 367, 643.

DISTRIBUTION. Palaearctic: China: Sichuan.

***Polleniopsis viridiventris* Chen et Fan, 1988**

Polleniopsis viridiventris Chen & Fan, 1988: 510; Chen et al., 1992: 1216; Fan, 1992: 511; Fan et al., 1997: 357, 369, 643.

DISTRIBUTION. Palaearctic: China: Tibet.

***Polleniopsis yunnanensis* Chen, Li et Zhang, 1988**

Polleniopsis yunnanensis Chen et al., 1988: 318; Chen et al., 1992: 1216; Fan, 1992: 509; Fan et al., 1997: 356, 363, 643.

DISTRIBUTION. Oriental: China: Yunnan.

***Polleniopsis zaitzevi* Verves, 1991**

Polleniopsis zaitzevi Verves, 1991: 126.

DISTRIBUTION. Oriental: Sri Lanka.

Genus *Tainanina* Villeneuve, 1927

Tainanina Villeneuve, 1927a: 271. Type species: *Tainanina grisella* Villeneuve, 1927 [= *Pollenia pilisquama* Senior-White, 1925], by monotypy.

Tainanina: Senior-White et al., 1940: 108; James, 1977: 541; Kurahashi, 1978: 1; Schumann, 1986: 37; Kurahashi, 1986: 13; 1987: 7; 1989a: 707; Fan, 1992: 500; Fan et al., 1997: 333, 641; Kurahashi & Chowanadisai, 2001: 191.

DIAGNOSIS. Small or medium sized flies (3.0-8.5 mm); body black with grayish white microtomentum; abdomen with checkering pattern. Frons of males as broad as females; first flagellomere about 4-6 times as long as pedicel; *ac* 2 + 3, *dc* 2-4 + 3, *ia* 0 + 3.

SPECIES INCLUDED. Genus includes four species; two of them are distributed in Oriental region and two are common for Oriental and Australasian/Oceanian regions.

List of species

***Tainanina javanica* Kurahashi, 1978**

Tainanina javanica Kurahashi, 1978: 6; Singh et al., 1979: 10; Fan & Yao, 1984: 177, Kurahashi, 1986: 13; 1987: 7; 1989a: 707; Kurahashi et al., 1997: 22; Fan et al., 1997: 333, 641.

DISTRIBUTION. Oriental: Indonesia: Java; Malaysia: Sabah, Pahang. Australasian/Oceanian: Indonesia: Irian Jaya.

***Tainanina pilisquama* (Senior-White, 1925)**

Pollenia pilisquama Senior-White, 1925: Rec. Indian Mus. 27: 84.

Tainanina pilisquama Senior-White et al., 1940: 109; Hennig, 1941: 187; James, 1966: 465; 1977: 541; Kurahashi, 1978: 2; Tumrasvin et al., 1979: 248; Fan et al., 1997: 334, 641; Lin & Chen, 1999: 115; Kurahashi & Magpayo, 2000: 18; Kurahashi & Chowanadisai, 2001: 191;

Tainanina grisella Villeneuve, 1927a: 272. Synonymized by Senior-White et al., 1940: 109.

DISTRIBUTION. Oriental: China: Guangdong, Aomen, Taiwan; India: Assam; Indonesia: Bali, Java, Kalimantan; Laos; Japan: Ryukyu Is.; Malaysia: Borneo; Philippines: Negros, Palawan, Uring Uring; Sri Lanka; Thailand.

***Tainanina sarcophagoides* (Malloch, 1931)**

Calliphora sarcophagoides Malloch, 1931: 192.

Tainanina sarcophagoides: Senior-White et al., 1940: 110; James, 1966: 466; 1977: 540; Kurahashi, 1978: 4; Tumrasvin et al., 1979: 248; Fan & Yao, 1984: 178; Xue & Chao, 1996: 1432; Kurahashi, 1986: 14; 1987: 7; 1989a: 707; 1989b: 516; Fan, 1992: 192; Fan et al., 1997: 337, 641; Kurahashi et al., 1997: 22; Kurahashi & Magpayo, 2000: 19; Kurahashi & Chowanadisai, 2001: 192; Kurahashi, 2001: 242; 2003: 128.

DISTRIBUTION. Oriental: China: Taiwan; India; Indonesia: Java, Lombok; Japan: Ryukyu Is.; Malaysia: Borneo, Pahang, Perak; Philippines: Mindanao, Negros, Palawan, Tawi Tawi; Thailand; Vietnam; Australasian/Oceanian: Indonesia: Irian Jaya; Papua New Guinea: Bismarck Archipelago, New Guinea; Solomon Is.

***Tainanina yangchunensis* Fan et Yao, 1984**

Tainanina yangchunensis Fan & Yao, 1984: 176; Ye et al., 1985: 447; Fan et al., 1997: 334, 641.

DISTRIBUTION. Oriental: China: Guangdong.

Genus *Tricycleopsis* Villeneuve, 1927

Tricycleopsis Villeneuve, 1927b: 388. Type species: *Tricycleopsis paradoxa* Villeneuve, 1927, by original designation.

Tricycleopsis: Kurahashi, 1970: 540, 1972b: 24; James, 1977: 541; Schumann, 1986: 37; Fan, 1992: 491; Fan et al., 1997: 304, 638; Kurahashi et al., 1997: 17; Kurahashi, 1998: 289.

Pseudocalliphora (as subgenus of genus *Calliphora* R.-D) Malloch, 1927: 51. Type species: *Calliphora semifulva* Malloch, 1927 (= *Tricycleopsis paradoxa* Villeneuve, 1927), by original designation. Synonymized by Kurahashi, 1970: 540.

DIAGNOSIS. Small or medium sized flies (3.0-8.5 mm); body subshining bluish black or entirely or partly testaceous yellow; legs black or yellow. Frons in males very narrow; first flagellomere about 2.5-3.0 times as long as pedicel; outmost *ph* present; *ac* 2 + 3, *dc* 2-4 + 3, *ia* 0-1 + 2.

SPECIES INCLUDED. Genus includes four species; two of them are distributed in Oriental, one in Southeast Palaearctic and one is common for south-eastern part of Palaearctic and Oriental region.

List of species

***Tricycleopsis minahassa* Kurahashi, 1998**

Tricycleopsis minahassa Kurahashi, 1998: 293.

DISTRIBUTION. Oriental: Indonesia: Sulawesi.

***Tricycleopsis papei* Kurahashi, 1998**

Tricycleopsis papei Kurahashi, 1998: 290.

DISTRIBUTION. Oriental: Malaysia: Pahang.

***Tricycleopsis paradoxa* (Villeneuve, 1927)**

Tricycleopsis paradoxa Villeneuve, 1927b: 389; Hennig, 1941: 180; Kurahashi, 1970: 540; James, 1977: 541; Kurahashi, 1970: 540; Fan et al., 1997: 305, 638; Kurahashi & Suenaga, 1991: 1; Kurahashi et al., 1997: 17; Kurahashi, 1998: 289; Lin & Chen, 1999: 115; *Calliphora paradoxa* Senior-White et al., 1940: 37.

Calliphora (Pseudocalliphora) semifulva Malloch, 1927: 51. Synonymized by Senior-White et al., 1940: 37.

DISTRIBUTION. Palaearctic: China: Taiwan; Japan: Hashijo Jima Is., Honshu, Kyushu, Shikoku. Oriental: Indonesia: Sumatra; Malaysia: Borneo, Malaya.

***Tricycleopsis tibialis* Kurahashi, 1972**

Tricycleopsis tibialis Kurahashi, 1972b: 24; Schumann, 1986: 37; Kurahashi & Suenaga, 1991: 4; Kurahashi, 1998: 289.

DISTRIBUTION. Palaearctic: Japan: Honshu.

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